BROWN'S DUMP CHRONOLOGY OF EVENTS

32056

1985 - Preliminary Assessment (EPA - Emergency Response and Removal Branch (ERRB))

- Dump operated from ~1949 to ~1955
- Bethune Elementary school built ~1955
- Includes maps and photos
- No samples taken

1985 - Site Screening Report (EPA - Science and Ecosystem Support Division (SESD))

- 16 samples taken (analyzed for cyanide and metals, and organic compounds including pesticides/PCBs, base/neutral/acid, and volatile organics) - 3 sw, 3 sed, 2 gw, 3 ss, 3 subs, 2 subs/sat zone (depth to gw = 3 ft)

Results - see Site Screening Report

Conclusions:

- no significant concentrations of organics;
- high lead in surface soils;
- subsurface soils have low lead in southern edge of school, but lead is present to the north of the school.

Recommendations:

- immediate sampling needed to confirm high lead in surface soils;
- need sampling in surrounding neighborhoods,
- subsurface sampling needed to determine vertical extent;
- need to determine gw flow direction;
- gw samples upgradient and downgradient of site needed;
- need to determine the sw flow patterns;
- need aerial photos.

1986 - Site Inspection (EPA - SESD)

Preliminary HRS Score:

- low waste quantity;
- no identified drinking water well;
- migration score < 28.5;
- no direct contact route score.

6/6/86 - "ERRB and CDC visited site and reviewed reports and declared there was no action needed" (ERRB, CDC - Centers for Disease Control).

8/18/86 - memo to file from EPA, "A removal action is not warranted at this time."

1994 - Site Inspection Worksheets (SIP subevent - new HRS system)

Preliminary HRS site score >28.5 (using 1985 Site Screening Report data), gw and soil exposure pathways.

Recommendations: need additional sampling.

2/9/95 - Site Investigation (ERRB)

Purpose: confirm metals in surface soils.
Samples: 17 soil, 1 sw (metals analysis only).
Results - see Site Investigation report (confirmed elevated levels).
Recommendations: need more extensive sampling.
* Fence was installed by ERRB to restrict access to highly contaminated soils on-site to north of school.

1995 - FDEP to take prime enforcement lead.

- 4/25/95 - meeting with EPA, TAT (contractor), FDEP, Duval County School Board, Duval County Human Resources Service, and City of Jacksonville - FDEP would take prime enforcement roll with technical assistance provided by EPA.
- 5/22/95 - letter from ERRB to FDEP stating that FDEP would assume role of lead agency.

1995 - Contamination Assessment Report (Duval County School Board)

Results: see Contamination Assessment Report

- Above ash (12 samples taken): 1 > 500ppm lead, 11< 500ppm
  (lead levels ranged from 1.5ppm to 2530ppm)
- In ash (18 samples taken): 16 > 500ppm lead, 2 < 500ppm
  (lead levels ranged from 753ppm to 7460ppm)
  (Arsenic at 115ppm in SB-9W)
- Below ash (13 samples taken): 13 < 500ppm lead
  (lead levels ranged from 3.18ppm to 209ppm)
- One soil sample analyzed for PCBs - none detected
- Top of ash range: surface to 6ft bls
- Ash thickness: 0 to 22 feet thick
- GW flow: north/northwest towards Moncrief Creek
- Monitoring Wells 4, 5, 6, 8: lead > PDWS (depth of wells = 10.5 ft to 26.5 ft bls)
  - groundwater analyzed by EPA methods 8260 and 8270
  - MW-4 = 0.395ppm (unfiltered)
  - MW-5 = 1.45ppm (unfiltered)
  - MW-6 = 0.111ppm (unfiltered)
  - MW-8 = 0.020ppm (unfiltered)
  - resampled, and only exceedance was MW-5 at 0.031ppm
- Surface water analyzed for 8 RCRA metals - none detected.
- Sediments (analyzed for 8 RCRA metals):
  - SS-1 = 8.08ppm lead, 3.28ppm barium, 2.12ppm chromium
  - SS-4 = 1.76 ppm arsenic

1996 - Contamination Assessment Report Addendum

Results - see Contamination Assessment Report Addendum

Phase I Interim Measures (completed Dec 1995):

- 6 inches soil cover over basketball court and playground;
- soil cover over egress point on west property line near Bessie Circle Apartments;

- soil cover over western entrance to courtyard between 2 southern school buildings.
- fence repairs on west end of property.

Phase II Interim Measures (completed Feb 1996):

- installation of a fence (with four gates) along the front of the school and the southeast corner of the school property;
- installation of two 4-foot locking gates.

Additional Sampling:

- thirteen ash samples (analyzed for lead) -
  - courtyard (1 out of 2 were > 500ppm)
  - in front of school building (5 out of 6 were > 500ppm),
  - along southwestern property line (all 3 were > 500ppm)
  - along western property line (both were > 500ppm).
- additional auger borings were drilled to help determine the extent of ash

Future Activities:

- Define lateral extent of ash. It is so far known that it extends beyond the school property.
- Appropriate remedial action needs to be identified.

3/96 - Determining Extent of Ash, 6/96 - More Ash Sampling

Soil samples analyzed for lead.

7/96 - Health Evaluation (EMCON for the City of Jacksonville)

Results:

- 130 children had blood lead tests done - 6 had BPbs > 10ug/dl (within the overall Jacksonville range), therefore "lead exposure and hazard due to residing in the Brown's Dump area is not apparent."
- Lead levels are still above EPA screening value of 400ppm, therefore
  - interim measures were necessary,
  - BPb testing was mandated for Medicaid recipients (6 to 72 months),
  - DCPHU continuing door-to-door screening;
  - more proposed interim remedial measures:
    - install a new cover for parking area in front of school;
    - access controls for JEA property;
    - community education/awareness outreach
    - continue BPb testing;
    - permanent remediation of "hot spot" north of Moncrief Creek (Nash Road - 78,800ppm of lead)

12/96 - EPA to take enforcement lead

- EPA takes the enforcement lead from FDEP on Brown's Dump, 5th & Cleveland Incinerator and Forest Street Incinerator because of "slow progress".
- ATSDR tasked to do a Health Consult report

2/97 - Health Consultation (ATSDR/FDOH)

Conclusions and Recommendations:

- Based on the lead levels in soil, the site is a public health hazard.

- children of the school and surrounding neighborhood do not appear to have been exposed to the most highly contaminated soil in the first six months of 1995 (based on BPb levels and IEUBK model);
- soil needs to be analyzed for complex organic chemicals (eg PAHs, PCBs, etc.)
- the extent of lead and ash in the surrounding neighborhood needs to be delineated;
- access should be restricted to the most contaminated soil (78,800ppm) near Moncrief Creek and warning signs posted;
- fence at end of Bessie Circle should be repaired and maintained.

7/97 - Private residence and playground sampling (EPA/SESD)

- 11 samples taken and analyzed for lead and dioxin

Results above lead screening levels:

- Lead = 1900ppm, dioxin TEQ = 210 ng/kg in Bessie Circle cul-de-sac
- Lead = 460ppm, dioxin TEQ = 12 ng/kg at Bessie Circle Apartments
- Lead = 950ppm, dioxin TEQ = 15 ng/kg at Moncrief Village Apartments

9/97 - Site Investigation Letter Report (ERRB)

- XRF screening for lead of Brown's Dump, 5th & Cleveland Incinerator, Forest Street Incinerator, and Lonnie C. Miller, Sr. Park.
- Sampling event in conjunction with EPA ESI sampling event.

Results - see Letter Report

3/98 - Expanded Site Investigation (EPA)

Twenty-eight samples were taken: 16 surface soils, 4 sw, 4 sed, 4 gw (TCL/TAL & dioxin analysis).

Results - see ESI report

- Soil: inorganics, extractable organics, pesticides/PCBs, and dioxin/furan.
- Groundwater: inorganic contaminants at elevated levels (including arsenic, lead).
- Surface Water: inorganic contaminants at elevated levels (including arsenic, lead and zinc - these were also elevated at the background location).
- Sediment: inorganics, extractable organics, pesticides/PCBs.

Preliminary HRS Score: > 28.5 (further action recommended)

9/98 - Draft Public Health Assessment (ATSDR/FDOH)

12/98 - 4/99: Discussions between EPA and City of Jacksonville about possible courses of action.

5/99 - Special Notice Letters for RI/FS to City of Jacksonville, Duval County School Board, and JEA.

6/99 - Letters of Intent from City, DCSB, and JEA